AMENDMENTS TO THE CLAIMS:

Claims 1-12 (Canceled)

Claims 13-16 (Withdrawn)

Claims 17-22 (Canceled)

Claims 23-27 (Withdrawn)

28. A transgenic mouse whose genome comprises a disruption in an endogenous BMP gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional BMP, and exhibits at least one of a kinky tail, low body weight or short body length, relative to a wild-type mouse.

29. A cell or tissue obtained from the transgenic mouse of claim 28, wherein the cell lacks production of functional BMP.

30. A transgenic mouse comprising a heterozygous disruption in an endogenous BMP gene, wherein the disruption in a homozygous state inhibits production of functional BMP resulting in a transgenic mouse exhibiting at least one of a kinky tail, low body weight or short body length, relative to a wild-type mouse.

31. A method of producing a transgenic mouse comprising a disruption in an endogenous BMP gene, the method comprising:
    a) introducing a targeting construct capable of disrupting an endogenous murine BMP gene into a murine embryonic stem cell;
    b) introducing the murine embryonic stem cell into a blastocyst;
    c) implanting the resulting blastocyst into a pseudopregnant mouse, wherein the pseudopregnant mouse gives birth to a chimeric mouse; and
    d) breeding the chimeric mouse to produce the transgenic mouse;
    wherein where the disruption is homozygous, the transgenic mouse lacks production of functional BMP and exhibits at least one of a kinky tail, low body weight or short body length, relative to a wild-type mouse.

32. The transgenic mouse produced by the method of claim 31.

33. A targeting construct capable of disrupting an endogenous murine BMP gene comprising:
    a) a first polynucleotide sequence homologous to at least a first portion of an endogenous murine BMP gene;

b) a second polynucleotide sequence homologous to at least a second portion of the endogenous murine BMP gene; and

c) a selectable marker gene located between the first and second polynucleotide sequences; wherein the targeting construct, when introduced into a murine embryonic stem cell results in production of a transgenic mouse whose genome comprises a disruption in the endogenous BMP gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional BMP and exhibits at least one of a kinky tail, low body weight or short body length, relative to a wild-type mouse.

34. A murine embryonic stem cell comprising a disruption in an endogenous BMP gene, the disruption produced using the targeting construct of claim 33, wherein where the disruption is homozygous, the cell lacks production of functional BMP.

35. A method of producing a targeting construct capable of disrupting an endogenous murine BMP gene, the method comprising:

a) providing a first polynucleotide sequence homologous to an endogenous murine BMP gene;

b) providing a second polynucleotide sequence homologous to the endogenous murine BMP gene;

c) providing a selectable marker gene; and

d) inserting the first sequence, second sequence, and selectable marker gene into a vector, such that the selectable marker gene is located between the first and second polynucleotide sequences, to produce the targeting construct;

wherein the targeting construct, when introduced into a murine embryonic stem cell leads to the production of a transgenic mouse comprising a homozygous disruption in the BMP gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional BMP and exhibits at least one of a kinky tail, low body weight or short body length, relative to a wild-type mouse.

36. A method of producing a targeting construct capable of disrupting an endogenous murine BMP gene, the method comprising:

a) providing a polynucleotide sequence comprising a first sequence homologous to a first region of an endogenous murine BMP gene and a second sequence homologous to a second region of the endogenous murine BMP gene;

b) inserting a positive selection marker gene between the first and second polynucleotide sequences to produce the targeting construct;

wherein the targeting construct, when introduced into a murine embryonic stem cell leads to the production of a transgenic mouse comprising a homozygous disruption in the BMP gene, wherein where the disruption is homozygous, the transgenic mouse lacks production of functional BMP and exhibits at least one of a kinky tail, low body weight or short body length, relative to a wild-type mouse.